

REMARKS

Claims 1-23 are all the claims presently pending in the application. Claims 1, 7, 17 and 23 are amended to more clearly define the invention. Claims 1, 7, 17 and 23 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Claims 1-23 stand rejected under 35 U.S.C. § 103(a) as being anticipated by the Ronning et al. reference in view of the Yamane et al. reference.

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

An exemplary embodiment of the claimed invention is directed to a method for searching files stored on a network. The method includes downloading a first file on the network from a server to a client, accessing time data from within the first file, and setting an accessing time to access a second file on the server based on the time data from the first file. The time data including the actual time when the second file is scheduled to be updated.

Conventional network file search engines conduct searches for updated files on networks periodically, such as at regular intervals. One problem with these conventional systems is that these systems do not have any method for determining when a website might be scheduled to be

updated. Depending on how often a website is updated, the web crawler's archive data could be very outdated. On the other hand, frequent web crawler visits to websites which are not frequently updated consume valuable computer resources.

The present invention provides a method for determining when and how often a web crawler should return to a web site. The present invention provides this advantage because the method downloads a first file on a network, accesses time data from within the first file and sets an access time to access a second file based upon the time data from within the first file, where that time data indicates when the second file is scheduled to be updated.

In an exemplary embodiment of the present invention, the method accesses a channel definition format (CDF) file which provides an indication of when a particular channel (and/or subchannel) is scheduled to be updated (see page 4, line 15 - page 5, line 2). Therefore, in this exemplary embodiment the first file is the CDF and the second file is the channel.

In this manner, the present invention provides for more efficient web crawling of a web site by crawling the site when and where it is likely the information contained therein is updated (page 6, lines 7-15).

II. THE PRIOR ART REJECTION

The Examiner alleges that the Yamane et al. reference would have been combined with the Ronning et al. reference to form the claimed invention. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, the references are directed to completely different matters and problems.

Specifically, the Ronning et al. reference is directed to controlling distribution of tiles and updates by automatically downloading files upon request by a user and to download the requested files in multiple portions by tracking an amount of a received portion of the file. ([0003]).

In stark contrast, the Yamane et al. reference is specifically directed to a system that tries to predict the time of update based upon a trial and error approach and correcting the prediction based upon a formula that may or may not converge to the closest value of the time of update..

One of ordinary skill in the art who was concerned with solving the problem of downloading of requested files in multiple portions as the Ronning et al. reference is concerned with solving would not have referred to the Yamane et al. reference because the Yamane et al. reference is directed to the completely different and unrelated problem of trying to predict the time of update. Thus, the references would not have been combined.

Even assuming arguendo that one of ordinary skill in the art would have been motivated to combine these references, the combination would not teach or suggest each and every element of the claimed invention.

None of the applied references teaches or suggests the features of the present invention including: 1) setting an accessing time to access a second file on a server based on time data that includes an actual time when the second file is scheduled to be updated (claims 1 and 17); 2) setting an accessing time to re-access a server based on time data that includes an actual time

when a second file is scheduled to be updated (claim 7); and 3) means for setting an accessing time to access a second file on a server based on time data that includes an actual time when said second file is scheduled to be updated (claim 23).

The Ronning et al. reference discloses a system where a file can be downloaded from a web server in parts (chunks or segments) in an integral way. In stark contrast, the present invention is directed to crawling (and downloading) a file or a web document “smartly” based upon what the web server says about when and how the document will be updated. Thus, the present invention is orthogonal to the system disclosed by the Ronning et al. reference.

Further, the Ronning et al. reference discloses a system that provides for automatic scheduling of downloads based upon input from the user, where the user specifies how and when to schedule the file to be downloaded next (“upon request by a user” [0003]; “permit the user to enter schedule information to control downloading of files and searching for updates to files” [0005]; “as entered by the user, including schedule information . . . permits the user to instruct the agent to search for updates on a periodic basis” [0072]; “permits the user to specify automatic downloads . . . permits the user to instruct the agent” [0073]; “programmed or instructed by the user” [0076]; “a user may enter a date in date section 781 and a time in time section 782 in order to schedule a download” [0081]; et seq.).

In stark contrast, the present invention schedules the next download based upon knowing the time when the file will be updated.

These systems are quite different and have different purposes of invention. The system disclosed by the Ronning et al. reference is an agent that sits on the end user’s machine and

periodically checks for updates based upon a schedule that is specified by the end user. This is inefficient since the scheduling has no knowledge of when the data is updated by the server and relies upon the user's intelligence to predict when to download. This can potentially cause heavy network traffic and unnecessary data downloads.

In summary, the Ronning et al. reference does not teach or suggest setting an time to access a file based upon a time of next scheduled update that was downloaded from another file. Rather, the user sets the next access time.

The Yamane et al. reference does not remedy the deficiencies of the Ronning et al. reference.

The Yamane et al. reference discloses a system that downloads data from a network by predicting when the data is to be updated. The system disclosed by the Yamane et al. reference either looks for that information within the file (i.e., the last time the file was updated) or predicts the next update time based upon the history of previous updates of the file. The system predicts the next update time, downloads the data, checks to see if the data has really been updated and, if not, it refines the prediction of the next update time (col. 8, lines 22 - col. 9, line 15).

In stark contrast, the present invention relies upon the actual time that the file is scheduled to be updated as specified by the server rather than relying upon some algorithm that is performed by a client that attempts to predict when the file will be updated. As noted by the Yamane et al. reference which acknowledges that the system must check to see has really been updated, the Yamane et al. reference merely attempts to predict when the file will be updated rather than relying upon the actual time that the file will be updated.

It is not possible to combine the teachings of the Ronning et al. reference with the Yamane et al. reference to arrive at the present invention. Given today's popularity of Web logs and RSS technology, the present invention is important to the present state of technology. Neither of the Ronning et al. reference nor the Yamane et al. reference combined together can solve the problems of the Web log scenario where the update information is kept on a separate metadata file as channel information on the server.

Regarding claims 2, 9, and 18, the Ronning et al. reference does not teach or suggest the second file being the same as the first file. Rather, the Ronning et al. reference discloses an update button on the client. As explained above, it is the update time that is specified by the client, not the server. The update time that is specified by the client may be completely wrong and has nothing to do with when the server updates or specifies the update in a, for example, CDF or metadata file.

Regarding claims 4, 12, and 20, the comparison of the channel definition file is quite different from what is described in reference to Figure 17 of the Ronning et al. reference. The Ronning et al. reference discloses what is on the client, as seen and as specified by the end user. In stark contrast, the channel definition file or other metadata file that may be used in an exemplary embodiment of the present invention resides on and is updated by the server.

Regarding claim 14, the Ronning et al. reference does not teach or suggest that the access time is defined by the server. Rather, the Ronning et al. reference explains that the access time is scheduled based upon data that is resident on the client and specified by the user.

The Examiner is respectfully requested to withdraw the rejection of claims 1-23.

III. FORMAL MATTERS AND CONCLUSION

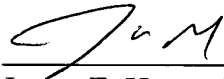
In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 1-23, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 10/7/04


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